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United States Department of Agriculture,  
BUREAU OF ANIMAL INDUSTRY,  
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## POULTRY INVESTIGATIONS.

For several years it has been a strongly contested question among poultrymen whether mash fed to hens should be moist or dry. Very little experimental work has been done along this line, and the results thus far obtained are not sufficiently marked and uniform to admit of positive conclusions. Within the last year or two another problem has arisen with the introduction of the hopper feeding system on a commercial scale, and very little experimental work has been done along this line as well. As any method of feeding or management which will increase the average egg yield of a flock of hens, even slightly, is of great importance in affecting the profit to be derived from the industry, definite experimental data are highly important.

The Bureau of Animal Industry of the Department of Agriculture is about to begin investigations bearing on these points. Heretofore the work of the Bureau along these lines has been confined to cooperation with the Maine Experiment Station in breeding hens for egg production and with the Rhode Island Experiment Station in turkey breeding. Mr. Rob R. Slocum has now been added to the staff of the Animal Husbandry Office of the Bureau as poultry assistant, and will have charge of the new work. Unfortunately, the lack of a suitable location precludes starting an experimental establishment in the immediate vicinity of Washington, but quarters are being fitted up at the Bureau's quarantine station near Baltimore, where experiments in hog feeding have been in progress for over a year. Although the conditions there are not ideal, the work can be carried on in a fairly suitable manner. The first work to be done will be a study of the moist and dry mash systems and of the use of self-feeding hoppers.

The equipment is necessarily modest because the available funds are not

large. A house divided into three pens, each accommodating twenty-five hens, with suitable yards, is to be constructed. This house, together with incubators, brooders, etc., sufficient to raise enough pullets to replace those used in the experiments, will comprise the immediate equipment.

In planning the experiment it seemed feasible to combine the two problems mentioned above, as this could be done by the use of three pens of fowls. The different lots of fowls are to be housed exactly alike and all conditions made equal except the methods of feeding. The fowls in pen No. 1 will receive morning and night a mixture of whole or cracked grains scattered in the litter, and at noon a moistened mash. Those in pen No. 2 will receive morning and night the same grain mixture fed in the litter exactly as with pen No. 1, and the same mash at noon, except that this mash will be fed dry. The only difference, then, between these two pens will be that pen No. 1 receives the mash moistened, while pen No. 2 receives exactly the same mash dry.

The fowls in pen No. 3 will be fed on exactly the same feed as those in the other pens, but will be fed from two self-feeding hoppers, one containing the grain and the other the mash. This mash will, of course, be dry. The hopper containing the grain will be opened about 4 p. m. in winter and 5 p. m. in summer and will be left open until the next noon. It will then be closed, and the second hopper containing the mash will be opened and left so until the first hopper is again opened late in the afternoon. In this way the hens will have feed before them at all times and can eat as much or as little as they please. A comparison can then be made with pen No. 2, the only difference between the two pens being that pen No. 2 receives its feed at stated intervals and in amounts indicated by the appetite of the fowls, while the fowls of pen No. 3 can help themselves at all times.

White Plymouth Rock fowls will be used, not because of any special preference for this variety, but for reasons of convenience. Pullets will be raised from the various pens and the test repeated twice to confirm results and note the effects of the different systems on vitality.

